

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) A recording apparatus comprising:

extraction means for extracting an image from a unit in which a constant number of moving image is images are included encoded, the unit including a constant number of images;

reduction means for reducing the amount of information of the extracted image;

encoding means for encoding the extracted image ~~whose~~ with reduced amount of information ~~is reduced~~ by a predetermined encoding scheme;

association means for associating the encoded image with the unit from which the image is extracted by the extraction means; and

recording control means for controlling recording of the encoded image associated with the unit and controlling recording of moving images onto a data recording medium ~~for recording the moving image,~~

wherein the recording control means is configured to:

determine an amount of data of moving images stored in a buffer;

~~controls~~ control recording of moving image images onto the data recording medium when the amount of data of moving images stored in the buffer is no less than a first predetermined threshold, such that the moving

~~image images in corresponding to~~ a predetermined time ~~interval for playback is are~~ recorded in a first contiguous area of the data recording medium; ~~and after the recording of the moving images corresponding to the predetermined time interval; determine an amount of data of encoded images stored in the buffer; and controls control~~ recording of encoded ~~image images~~ onto the data recording medium when the amount of data of encoded images stored in the buffer is no less than a second predetermined threshold, such that the encoded ~~image is~~ images are recorded in a second contiguous area of the data recording medium ~~when the amount of data of the encoded image exceeds a predetermined threshold if the recording of the moving image in the first area of the data recording medium is ended.~~

2. (Previously Presented) The recording apparatus according to claim 1, wherein the association means is a track associated with a track of the moving image and associates the encoded image with the unit by arranging the encoded image in a track in a predetermined file format.
3. (Previously Presented) The recording apparatus according to claim 1, wherein the association means associates the encoded image with the unit by associating a range of time for playback of the unit of the moving image with the encoded image.

4. (Cancelled)
5. (Previously Presented) The recording apparatus according to claim 1, wherein the encoding means encodes the image by a compression and encoding scheme for a static image.
6. (Previously Presented) The recording apparatus according to claim 1, wherein the encoding means encodes the image by a compression and encoding scheme for a moving image such that decoding is possible only with the image.
7. (Previously Presented) The recording apparatus according to claim 1, wherein the reduction means reduces the amount of information of the image by thinning out pixels of the image.
8. (Previously Presented) The recording apparatus according to claim 1, wherein the reduction means reduces the amount of information of the image by removing a high-frequency component of the image.
9. (Currently Amended) A recording method comprising:
 - an extraction step of extracting an image from a unit in which a constant number of moving image is images are included ~~encoded, the unit including a constant number of images;~~
 - a reduction step of reducing the amount of information of the extracted image;

an encoding step of encoding the extracted image whose with reduced amount of information is ~~reduced~~ by a predetermined encoding scheme;

an association step of associating the encoded image with the unit from which the image is extracted in the extraction step; and

a recording control step of controlling recording of the encoded image associated with the unit and controlling recording of moving images onto a data recording medium ~~for recording the moving image~~,

wherein the recording control step ~~comprising~~ comprises:

determining an amount of data of moving images stored in a buffer;

controlling recording of the moving ~~image~~ images onto the data recording medium when the amount of data of moving images stored in the buffer is no less than a first predetermined threshold, such that the moving ~~image~~ images ~~in~~ corresponding to a predetermined time interval ~~for playback is~~ are recorded in a first contiguous area of the data recording medium; and

after the recording of the moving images corresponding to the predetermined time interval; determining an amount of data of encoded images stored in the buffer; and

controlling recording of the encoded ~~image~~ images onto the data recording medium when the amount of data of encoded images stored in the buffer is no less than a second predetermined threshold, such that the

~~encoded image is~~ images are recorded in a second contiguous area of the data recording medium ~~when the amount of data of the encoded image exceeds a predetermined threshold if the recording of the moving image in the first area of the data recording medium is ended.~~

10. (Currently Amended) A recording medium storing a program causing a computer to perform recording processing comprising:

an extraction step of extracting an image from a unit in which a constant number of moving image is images are included ~~encoded, the unit including a constant number of images;~~

a reduction step of reducing the amount of information of the extracted image;

an encoding step of encoding the extracted image whose with reduced amount of information is ~~reduced~~ by a predetermined encoding scheme;

an association step of associating the encoded image with the unit from which the image is extracted in the extraction step; and

a recording control step of controlling recording of the encoded image associated with the unit and controlling recording of moving images onto a data recording medium ~~for recording the moving image,~~

wherein the recording control step ~~comprising~~ comprises:

determining an amount of data of moving images stored in a buffer;

controlling recording of the moving ~~image~~ images onto the data recording medium when the amount of data of moving images stored in the buffer is no less than a first predetermined threshold, such that the moving ~~image~~ images in corresponding to a predetermined time interval ~~for playback is~~ are recorded in a first contiguous area of the data recording medium; ~~and~~ after the recording of the moving images corresponding to the predetermined time interval; determining an amount of data of encoded images stored in the buffer; and

controlling recording of the encoded ~~image~~ images onto the data recording medium when the amount of data of encoded images stored in the buffer is no less than a second predetermined threshold, such that the encoded ~~image is~~ images are recorded in a second contiguous area of the data recording medium ~~when the amount of data of the encoded image exceeds a predetermined threshold if the recording of the moving image in the first area of the data recording medium is ended.~~

11. (Cancelled)

12. (Currently Amended) A playback apparatus comprising:

reading control means for controlling reading an image from a data

recording medium recording ~~[[a]]~~ moving ~~image~~ images and the image, the image being extracted from a unit in which a constant number of the moving image is images are included ~~encoded, the unit including a constant number of images~~, the amount of information of the image being reduced, the image being encoded by a predetermined encoding scheme, the image being associated with ~~each~~ the unit, the moving ~~image~~ images being recorded onto the data recording medium when an amount of data of moving images stored in a buffer is determined to be no less than a first predetermined threshold such that the moving ~~image~~ images ~~in~~ corresponding to a predetermined time interval ~~for playback is~~ are recorded in a first contiguous area of the data recording medium, the encoded image being recorded onto the data recording medium after the recording of the moving images corresponding to the predetermined time interval, and when an amount of data of encoded images stored in the buffer is determined to be no less than a second predetermined threshold such that the encoded image is recorded in a second contiguous area of the data recording medium ~~when the amount of data of the encoded image exceeds a predetermined threshold if the recording of the moving image in the first area of the data recording medium is ended~~, and the reading being based on an instruction from a user and a relationship with the unit ~~of the moving image~~;

decoding means for decoding the ~~read-out~~ image; and

display control means for controlling display of the decoded image.

13. (Previously Presented) The playback apparatus according to claim 12, wherein the reading control means controls reading the image from the data recording medium so as to read only the image if the user directs a fast-forward operation or a rewind operation.
14. (Previously Presented) The playback apparatus according to claim 12, wherein the decoding means decodes the image encoded by a compression and encoding scheme for a static image.
15. (Previously Presented) The playback apparatus according to claim 12, wherein the decoding means decodes the image encoded by a compression and encoding scheme for the moving image such that decoding is possible only with the image.
16. (Currently Amended) A playback method comprising:
 - a reading control step of controlling reading an image from a data recording medium recording ~~[[a]] moving image~~ images and the image, the image being extracted from a unit in which a constant number of the moving image is images are included ~~encoded, the unit including a constant number of images~~, the amount of information of the image being reduced, the image being encoded by a predetermined encoding scheme, the image being associated with ~~each~~ the unit, the moving ~~image~~ images being recorded onto the data recording medium when an amount of data of moving images stored in a buffer is determined to be no less than a first

predetermined threshold such that the moving image images in corresponding to a predetermined time interval ~~for playback is~~ are recorded in a first contiguous area of the data recording medium, the encoded image being recorded onto the data recording medium after the recording of the moving images corresponding to the predetermined time interval, and when an amount of data of encoded images stored in the buffer is determined to be no less than a second predetermined threshold such that the encoded image is recorded in a second contiguous area of the data recording medium ~~when the amount of data of the encoded image exceeds a predetermined threshold if the recording of the moving image in the first area of the data recording medium is ended, and~~ the reading being based on an instruction from a user and a relationship with the unit;

a decoding step of decoding the ~~read-out~~ image; and

a display control step of controlling display of the decoded image.

17. (Previously Presented) A recording medium storing a program causing a computer to perform playback processing comprising:

a reading control step of controlling reading an image from a data recording medium recording ~~[[a]]~~ moving image images and the image, the image being extracted from a unit in which a constant number of the moving image is images are included ~~encoded, the unit including a constant number of images, the amount of information of the image being reduced, the image being encoded by a predetermined encoding scheme, the image being associated~~

with each ~~the~~ unit, the moving image images being recorded onto the data recording medium when an amount of data of moving images stored in a buffer is determined to be no less than a first predetermined threshold such that the moving image images in corresponding to a predetermined time interval for playback is are recorded in a first contiguous area of the data recording medium, the encoded image being recorded onto the data recording medium after the recording of the moving images corresponding to the predetermined time interval, and when an amount of data of encoded images stored in the buffer is determined to be no less than a second predetermined threshold such that the encoded image is recorded in a second contiguous area of the data recording medium ~~when the amount of data of the encoded image exceeds a predetermined threshold if the recording of the moving image in the first area of the data recording medium is ended, and~~ the reading being based on an instruction from a user and a relationship with the unit;

a decoding step of decoding the ~~read-out~~ image; and

a display control step of controlling display of the decoded image.

18. (Cancelled)